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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,747	06/29/2001	Toshihiro Tai	FURUYA-CASE-	8626

7590 02/20/2003

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EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT	PAPER NUMBER
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1714

6

DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-6

Office Action Summary	Application No.		Applicant(s)	
	09/869,747		TAI, TOSHIHIRO	
	Examiner		Art Unit	
	Katarzyna Wyrozebski Lee		1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-7 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s) <u>6</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> | 6) <input type="checkbox"/> Other: |

Interview Summary	Application No.	Applicant(s)	
	09/869,747	TAI, TOSHIHIRO	
	Examiner	Art Unit	
	Katarzyna Wyrozebski Lee	1714	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Katarzyna Wyrozebski Lee (3) _____
 (2) Terryence Chapman (4) _____

Date of Interview: 10 February 2003.

Type: a) ☒ Telephonic b) ☐ Video Conference
 c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
 If Yes, brief description: _____.

Claim(s) discussed: 1-7.

Identification of prior art discussed: none.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The examiner requested restriction of claims 6 and 7 (metal plated molding article) from composition. The examiner stated that once composition claims are allowable the restricted claims will be rejoined. The attorney chose with traverse to prosecute composition claims 1-5.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

i) ☐ It is not necessary for applicant to provide a separate record of the substance of the interview (if box is checked).

Unless the paragraph above has been checked, THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


 Examiner's signature, if required

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-5, drawn to thermoplastic composition.

Group II, claim(s) 6-7, drawn to product plated with metal.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The thermoplastic composition disclosed in claims 1-5 as specified in rule 1.475 (a) and in view of the anticipation rejection stated above, does not define contribution over the prior art. Therefore Groups I and II are distinct.

During the interview conducted with attorney of record, the examiner agreed that the claims will be rejoined, once the composition claims 1-5 are in condition for allowance. Especially since claims 6-7 depend on claim 1.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwasaki (JP 01207356).

The prior art of Iwasaki discloses molding composition comprising potassium titanate whiskers, thermoplastic resin and carbon fibers.

According to Table 2 of the prior art of Iwasaki, the components are utilized in the following amounts:

Thermoplastic resin (PET in that example) 55-90 wt %

Potassium titanate whiskers 10-45 wt %

Carbon fibers 0-10 wt %

Table 1 of the prior art of Iwasaki discloses additional amounts of the carbon fibers which are 15 wt % and Table 4 discloses 40 wt %.

In the light of the above disclosure, the prior art of Iwasaki anticipates the requirements of claims rejected above.

Art Unit: 1714

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kanayama (JP 08027366).

The prior art of Kanayama discloses composition comprising 95-60 wt % of thermoplastic resin, 5-40 wt% aluminum borate whiskers and 5-40 wt% glass fibers.

In the light of the above disclosure the prior art of Kanayama anticipates the requirements of claims rejected above.

6. Claims 1, 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuramoto (JP 07149891).

The prior art of Kuramoto discloses polyamide molding composition comprising 5-30 parts by weight of glass fibers, 0.5-10 parts by weight of mineral whisker with balance (60-94.5) of thermoplastic polyamide.

According to the examples of the prior art of Kuramoto, the whiskers are preferably potassium titanate whiskers or aluminum borate whiskers.

In the light of the above disclosure, the prior art of Kuramoto anticipates claims rejected above.

7. Claims 1-4 are rejected under 35 U.S.C. 102(a) as being anticipated by Koichi (JP 2000129148).

The prior art of Koichi discloses composition comprising styrene thermoplastic resin, 5-30 pbw of fiber and 3/20 pbw of whisker.

The styrenic polymer [0006] is utilized in an amount of 5-100 % with additional thermoplastics in an amount of 0-95 %.

Art Unit: 1714

The fiber of Koichi [0007] is carbon fiber, glass fiber or mixture of both. The fibers can be coated with preferably nickel.

The whisker component of the prior art of Koichi is zinc oxide whisker. The prior art of Koichi also teaches use of flame retardants [0012].

According to the further examples [0015] the two thermoplastic polymers utilized are (A-3) in a 1:1 ratio (or 50/50) of ABS and nylon-6. Fibers are carbon fibers [0016].

In the light of the above disclosure the prior art of Koichi anticipates the requirements of claims rejected above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1714

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 2, 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki (JP 01207356) in view of Gareiss (US 6,084,012).

The prior art of Iwasaki discloses molding composition comprising potassium titanate whiskers, thermoplastic resin and carbon fibers.

According to Table 2 of the prior art of Iwasaki, the components are utilized in the following amounts:

Thermoplastic resin (PET in that example) 55-90 wt %

Potassium titanate whiskers 10-45 wt %

Carbon fibers 0-10 wt %

Table 1 of the prior art of Iwasaki discloses additional amounts of the carbon fibers which are 15 wt % and Table 4 discloses 40 wt %.

Art Unit: 1714

The difference between the present invention and the prior art of Iwasaki is teaching of the polymeric component and flame retardant.

With respect to the above differences, the prior art of Gareiss discloses composition (claim 1) comprising thermoplastic polymer selected from polyamides, polyesters, polyphenylene ethers or their mixtures. Thermoplastic polymer is utilized in an amount of 5-99 % by weight.

The composition comprises red phosphorus flame retardant, which is utilized in an amount of 1-60 wt %.

The composition comprises additives in an amount of 0-70 wt %. Examples disclose that these additives include fibers, such as glass fibers. The specification also teaches that other fibers such as carbon fibers and potassium titanate whiskers can be utilized as well. In preferred embodiment, the fibrous fillers and whiskers are utilized in an amount of up to 50 wt %.

The composition that can be obtained from the teachings of Gareiss has good flame retardancy due to addition of red phosphorus.

In the light of the above disclosure it would have been obvious to one of ordinary skill in the art that in order to improve the flame retardancy of the molding composition red phosphorus can be added. The effectiveness of such modification is self evident, since the prior art of Iwasaki and Gareiss have very similar components to each other. They both disclose thermoplastic polymer, fibers and whiskers.

12. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanayama (JP 08027366) in view of Gareiss (US 6,084,012).

Art Unit: 1714

The prior art of Kanayama discloses composition comprising 95-60 wt % of thermoplastic resin, 5-40 wt% aluminum borate whiskers and 5-40 wt% glass fibers.

The difference between the present invention and the prior art of Katayama is teaching of the polymeric component, carbon fibers and flame retardant.

With respect to the above differences, the prior art of Gareiss discloses composition (claim 1) comprising thermoplastic polymer selected from polyamides, polyesters, polyphenylene ethers or their mixtures. Thermoplastic polymer is utilized in an amount of 5-99 % by weight.

The composition comprises red phosphorus flame retardant, which is utilized in an amount of 1-60 wt %.

The composition comprises additives in an amount of 0-70 wt %. Examples disclose that these additives include fibers, such as glass fibers. The specification also teaches that other fibers such as carbon fibers and potassium titanate whiskers can be utilized as well. Carbon fibers and glass fibers are according to the disclosure of Gareiss used for the same purpose and they are equivalent in their effects. In preferred embodiment, the fibrous fillers and whiskers are utilized in an amount of up to 50 wt %.

The composition that can be obtained from the teachings of Gareiss has good flame retardancy due to addition of red phosphorus.

In the light of the above disclosure it would have been obvious to one of ordinary skill in the art that in order to improve the flame retardancy of the molding composition red phosphorus can be added. The effectiveness of such modification is self evident, since the prior art of

Art Unit: 1714

Katayama and Gareiss have very similar components to each other. They both disclose thermoplastic polymer, fibers and whiskers.

13. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuramoto (JP 07149891) in view of Gareiss (US 6,084,012).

The prior art of Kuramoto discloses polyamide molding composition comprising 5-30 parts by weight of glass fibers, 0.5-10 parts by weight of mineral whisker with balance (60-94.5) of thermoplastic polyamide.

According to the examples of the prior art of Kuramoto, the whiskers are preferably potassium titanate whiskers or aluminum borate whiskers.

The difference between the present invention and the prior art of Kuramoto is teaching of carbon fibers and flame retardant.

With respect to the above differences, the prior art of Gareiss discloses composition (claim 1) comprising thermoplastic polymer selected from polyamides, polyesters, polyphenylene ethers or their mixtures. Thermoplastic polymer is utilized in an amount of 5-99 % by weight.

The composition comprises red phosphorus flame retardant, which is utilized in an amount of 1-60 wt %.

The composition comprises additives in an amount of 0-70 wt %. Examples disclose that these additives include fibers, such as glass fibers. The specification also teaches that other fibers such as carbon fibers and potassium titanate whiskers can be utilized as well. Carbon fibers and glass fibers are according to the disclosure of Gareiss used for the same purpose and

Art Unit: 1714

they are equivalent in their effects. In preferred embodiment, the fibrous fillers and whiskers are utilized in an amount of up to 50 wt %.

The composition that can be obtained from the teachings of Gareiss has good flame retardancy due to addition of red phosphorus.

In the light of the above disclosure it would have been obvious to one of ordinary skill in the art that in order to improve the flame retardancy of the molding composition red phosphorus can be added. The effectiveness of such modification is self evident, since the prior art of Kuramoto and Gareiss have very similar components to each other. They both disclose thermoplastic polymer, fibers and whiskers.

14. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gareiss (US 5,434,209).

The prior art of Gareiss discloses molding composition comprising 30-98 wt % of thermoplastic polyamide, 1-30 wt % of red phosphorus, 0-60 wt % of fibrous filler and 0-30 wt % of elastomeric polymer.

Col. 8 of the prior art of Gareiss teaches that the preferred fibrous fillers include carbon fibers, potassium titanate whiskers, aramid fibers and glass fibers. More preferred amount in which the fibers are utilized is 10-40 wt % and can be utilized in mixtures.

Although the prior art of Gareiss does not disclose examples in which the fiber and whisker are utilized together, it is well settled that it is prima facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. *In re Linder* 457 F,2d 506,509, 173 USPQ 356, 359 (CCPA 1972).

Art Unit: 1714

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to combine whiskers and fibers of the prior art of Gareiss so that their total amount is as taught by the prior art. Use of a mixture of whisker and fiber would give similar effect as use of fiber or whisker, since they are both reinforcing agents.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski Lee whose telephone number is (703) 306-5875. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



KIWL

February 11, 2003